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IN THE SPECIFICATION

Paragraphs 1 and 2 have been amended as follows:

~~**Background of the Invention**~~

CROSS REFERENCE

This **application claims the benefit** ~~**is a continuation-in-part**~~ of co-pending U.S. Patent Application Serial No. 60/473,372, filed May 23, 2003.

BACKGROUND OF THE INVENTION

The present invention is directed to an apparatus for packaging articles using shrink-wrap film [[,]] and, particularly, to an improved heat tunnel that can be used for various film configurations.

Paragraph 4 has been amended as follows:

Previous methods of packaging such as the above have involved feeding the groups of articles into a heat tunnel in series, with the film wrapped around the articles from the leading edge of the group to the trailing edge of the group. FIG. 1 shows how this is typically accomplished. Groups G of articles A are placed spaced apart on a conveyor C. A layer L of film F (usually from a roll of film) is wrapped around the groups G with the film layer L continuously covering adjacent groups G.

Paragraph 5 has been amended as follows:

The groups G are then fed on the conveyor into a heat tunnel T. Heat and (typically) forced air is applied to the junction J between adjacent groups **G**, causing the film layer L to soften at the junction J and pinch off between the groups **G**, at the same time shrinking tightly against the groups G as shown. This results in complete packages P of articles A, with the film shrunk about them. The closed ends E of the packages **P** (known as "bulls eyes") are at ends of the packages **P** in the direction of travel of the conveyor **C** (shown by the arrow).

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Paragraph 6 has been amended as follows:

An extension to the above apparatus is shown in FIG. 2. Here, parallel conveyors C1, C2, C3, etc. carry article groups G1, G2, G3, etc. into the heat tunnel T, where the above-described heat-shrinking occurs. The parallelism improves total throughput.

Paragraph 7 has been amended as follows:

The apparatus shown in FIGS. 1 and 2 has a number of disadvantages. In gathering of multiple articles A into the groups G (known as "pack patterns"), the continuous tube of film F creates design challenges to support the groups G from the underside while the tube of film F is formed around the product. This is further complicated by product size changeover requirements. Theoretically, the conveyor C that transports the product pack pattern into the heat tunnel T would have to change widths for each change in product size to accommodate the tube of film F around the pack pattern.

Paragraph 8 has been amended as follows:

In yet another variation (which **the Assignee** ~~**Applicant**~~ has used in the past), cut sleeves of film F are used, one sleeve per article group, instead of a continuous layer of film F around the groups **G1, G2, G3, etc**. However, the groups G are fed serially into the heat tunnel T with the articles A in each group G oriented in such a manner that the film F will be shrunk around each group G with the resulting closed ends E ("bulls eyes") oriented transverse to the direction of travel of the conveyor C. To improve throughput, multiple parallel streams of articles A may be fed into the heat tunnel T.

Paragraph 9 has been amended as follows:

~~**U.S. Patent Application Serial No. 60/473,372 discloses an apparatus and method for packaging articles using tubes of pre-perforated shrink-wrap film, with the tubes of pre-perforated shrink-wrap film enclosing the articles fed into a heat tunnel on a conveyor, the open ends of the tubes of film being oriented substantially transverse to the direction of motion of the conveyor.**~~

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Paragraph 10 has been amended as follows:

The present application discloses an improved heat tunnel for use with both pre-perforated and **non-perforated** ~~non-preperforated~~ shrink wrap film.

Paragraph 13 has been amended as follows:

There is a need for a new heat tunnel capable of **producing** consistently good bulls eyes with controlled shrink and that is adjustable for a range of product sizes.

Paragraph 15 has been amended as follows:

There is also a need for a more aesthetically appearing heat tunnel **[[,]]** and one of reduced size.

Paragraph 17 has been amended as follows:

A heat tunnel for applying heated air to articles to enclose the articles in shrink-wrap film, the heat tunnel ~~comprising~~ **includes**:

Paragraph 19 has been amended as follows:

(b) a conveyor ~~chain~~; and

Paragraph 20 has been amended as follows:

(c) a heat shroud spaced from the conveyor, ~~chain~~

Paragraph 22 has been amended as follows:

A principal object and advantage of the present invention is that **[[it]]** **a heat tunnel according to a preferred form** provides a balanced laminar flow of air through the conveyor and controlled airflow from the sides. This creates shrink film covered packages with consistently shaped bulls eyes, **a** minimum distortion of graphics, and a minimum of wrinkles.

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Paragraph 23 has been amended as follows:

Another principal object and advantage of the present invention is that **[[it]]** **a heat tunnel according to a preferred form** permits vertical adjustment of the heat shroud to ensure consistent results over a range of product sizes.

Paragraph 24 has been amended as follows:

Another principal object and advantage of the invention is that the heated air passing through the conveyor **[[web]]** contacts the film under the product and results in an "air weld" of the film lap seam.

Paragraph 25 has been amended as follows:

Another principal object and advantage of the invention is that the heated air has a minimum contact with the product conveyor ~~chain web~~, so that the **conveyor** ~~chain~~ can be maintained at a relatively cool temperature of about 220°F. As a result, the film does not stick to the **conveyor** ~~chain~~ and less heat energy is lost to the environment.

Paragraph 26 has been amended as follows:

Another principal object and advantage of the present invention is that the outer surface of the heat tunnel stays cooler during operation, thus making the **heat tunnel** ~~machine~~ safer and more comfortable to work around and also increasing operating efficiency due to the reduced heat loss.

Paragraph 29 has been amended as follows:

Another principal object and advantage of the present invention is that **[[it]]** **a heat tunnel according to a preferred form** can be used with a single chain conveyor the full width of the machine or with multiple chains running side by side with center air ducts.

Paragraph 31 has been amended as follows:

Another principal object and advantage of the present invention is that the **conveyor** ~~chain~~ temperature is controlled by a cooling fan that circulates air across the full width of the conveyor ~~chain~~.

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Paragraph 32 has been amended as follows:

Another principal object and advantage of the present invention is that **[[it]]** **a heat tunnel according to a preferred form** produces a sound reduction of approximately 13% compared to previous models.

Paragraph 34 has been amended as follows:

Another principal object and advantage of the present invention is that **[[it]]** **a heat tunnel according to a preferred form** provides modular air supply units having a source of heated air, a fan, a heated air plenum, air ducts, and a return air plenum, so that the modular air supply units may be arranged in series with a separate conveyor and heat shroud to produce a heat tunnel of variable length, so that the length of the heat tunnel may be adjusted to correspond to the speed of incoming articles, providing sufficient time for the articles to reach the shrinking temperature of the shrink wrap film and for the shrink-wrap film to shrink around the articles.

Paragraph 43 has been amended as follows:

FIG. 9 is a top plan view of a conveyor ~~chain~~ and heated air plenum of the prior art.

Paragraph 44 has been amended as follows:

FIG. 10 is a top plan view of a conveyor ~~chain~~ and heated air plenum of the present invention.

Paragraph 45 has been amended as follows:

FIG. **[[11a]]** **11A** is a front elevational view of the apparatus of the present invention.

Paragraph 46 has been amended as follows:

FIG. **[[11b]]** **11B** is a detailed view of the indicated area in FIG. **[[11a]]** **11A**.

Paragraphs 48-51 have been amended as follows:

FIG. **[[13a]]** **13A** is a perspective view of a second embodiment of the apparatus of the present invention, with side-by-side conveyor chains.

FIG. **[[13b]]** **13B** is a front elevational view of the apparatus of FIG. **[[13a]]** **13A**.

FIG. 13C is a detailed view of the indicated area of FIG. **[[13b]]** **13B**.

FIG. 14 is a perspective view of a heat tunnel using the embodiment of FIG. **[[13a]]** **13A**.

Paragraph 54 has been amended as follows:

FIGS. 17-20 are perspective views of **a heat tunnel of** the present invention showing the use of an optional film separator.

Paragraph 58 has been amended as follows:

In one aspect, the present invention is an apparatus 10 for applying heat to articles A **and** to enclose the articles A in shrink-wrap film F.

Paragraph 59 has been amended as follows:

The apparatus 10 (FIGS. 4, 5, and 6) comprises a conveyor 12 having a plurality of first apertures 14 therethrough. A motor 16 drives the conveyor **12** in a first direction as shown by the arrows in FIG. 5.

Paragraph 60 has been amended as follows:

The apparatus 10 further comprises a source **of heated air** 18 ~~of heated air~~. The apparatus 10 further comprises (FIG. 7) a heated air plenum 20 under the conveyor 12 and supporting the conveyor 12, the plenum 20 having a top surface 22 having a plurality of second apertures 24 therethrough. ~~Applicant~~ **It** has **been** found that an optimal size for the second apertures 24 is about 7/16 **[["]]** **inch** to 7/32 **[["]]** **inch**. In this range, the flow of heated air through the apertures 24 is much less turbulent than with either larger or smaller aperture sizes. Specifically, this range of aperture size creates primarily a vertical air flow, while larger aperture sizes allow horizontal flow.

Paragraph 62 has been amended as follows:

The apparatus 10 further comprises a return air plenum 30 returning air to **the** source of heated air 18.

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Paragraph 63 has been amended as follows:

The apparatus 10 further comprises a shroud 32 partially enclosing the conveyor 12 along the first direction and spaced from the conveyor 12 at a displacement. **With** ~~, forming with~~ the conveyor 12, **shroud 32 forms** a film shrinking area 34 between the conveyor 12 and the shroud 32 (FIG. 14).

Paragraph 65 has been amended as follows:

In one embodiment (FIG. 10), the first apertures 14 and second apertures 24 are in substantial alignment as the conveyor 12 moves along the first direction. This structure is significantly different from the prior art (FIG. 9) in which the first apertures **[[14]]** and second apertures **[[24]]** are substantially unaligned. By having the first apertures 14 and second apertures 24 in substantial alignment, the heated air passing therethrough only heats the conveyor **12** when the two sets of apertures **14, 24** are unaligned. This creates a lower temperature on the conveyor **12**, which has important consequences as will be discussed below.

Paragraph 66 has been amended as follows:

In one embodiment, the apparatus 10 further comprises a conveyor cooling fan 40 which also aids in keeping the temperature of the conveyor **12** significantly lower than in earlier devices.

Paragraph 67 has been amended as follows:

In one embodiment, the apparatus 10 further comprises a side air duct 50 adjacent the conveyor 12 along the first direction, **with** the side air duct 50 transmitting heated air from the heated air plenum 20. The side air duct 50 may optionally have a supplemental heat source 52 (FIG. **[[11b]] 11B**), which may be an electrical heater.

Paragraphs 68 and 69 have been amended as follows:

In one embodiment (FIGS. **[[13a]] 13A-13C [[13c]]** , 14, 15), the apparatus 10 further comprises at least two side-by-side conveyor chains 12a, 12b running along the first direction.

In one embodiment (FIGS. **[[13a]] 13A-13C [[13c]]**, 14, 15), the apparatus 10 further comprises a center air duct 54 transmitting heated air from the heated air plenum 20. The center

air duct 54 may optionally have a supplemental heat source 56, which may be an electrical heater.

Paragraph 71 has been amended as follows:

In one aspect, the present invention is **an apparatus** ~~a heat tunnel~~ 110 for applying heated air to articles A **and** to enclose the articles A in shrink-wrap film F.

Paragraph 72 has been amended as follows:

The apparatus 110 (FIGS. 4, 5, 6, and 10) comprises a moving conveyor ~~chain~~ 112 having a plurality of first apertures 14 therethrough separated by link bars 15.

Paragraph 73 has been amended as follows:

The apparatus 110 further comprises a source **of heated air** 18 ~~of heated air~~. The apparatus 110 further comprises (FIG. 7) a heated air plenum 20 under the conveyor ~~chain~~ 112 and supporting the conveyor ~~chain~~ 112, the plenum 20 having a top surface 22 having a plurality of second apertures 24 therethrough. ~~Applicant has found that an optimal size for the second apertures 24 is about 7/16"to 7/32". In this range, the flow of heated air through the apertures 24 is much less turbulent than with either larger or smaller aperture sizes. Specifically, this range of aperture size creates primarily a vertical air flow, while larger aperture sizes allow horizontal flow.~~

Paragraph 74 has been amended as follows:

In one embodiment (FIG. 10), the first apertures 14 and second apertures 24 are in substantial alignment as the conveyor ~~chain~~ 112 moves along the first direction. ~~This structure is significantly different from the prior art (FIG. 9) in which the first apertures 14 and second apertures 24 are substantially unaligned.~~ By having the first apertures 14 and second apertures 24 in substantial alignment, the heated air passing therethrough only heats the conveyor **112** when the two sets of apertures **14, 24** are unaligned. This creates a lower temperature on the conveyor **112**, which has important consequences as will be discussed below.

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Paragraph 75 has been amended as follows:

In one embodiment, the apparatus 110 further comprises a side air duct 50 adjacent **the conveyor 112 along the first direction, with the side air duct 50** transmitting heated air from the heated air plenum 20 transversely across the conveyor ~~chain~~ 112. ~~The side air duct 50 may optionally have a supplemental heat source 52 (FIG. 11b), which may be an electrical heater.~~

Paragraph 76 has been amended as follows:

The apparatus 110 further comprises a return air plenum 30 returning air to **the** source of heated air 18.

Paragraph 77 has been amended as follows:

The apparatus 110 further comprises a shroud 32 partially enclosing the conveyor ~~chain~~ 112 and spaced from the conveyor ~~chain~~ 112**. With** ~~, forming with~~ the conveyor ~~chain~~ 112**, shroud 32 defines** a film shrinking area 34 between the conveyor ~~chain~~ 112 and the shroud 32.

Paragraph 78 has been amended as follows:

In one embodiment, the heated air plenum 20 is tapered vertically along the conveyor ~~chain~~ 112 in the direction of movement of the conveyor ~~chain~~ **112**, as best seen in FIGS. 6 and 12.

Paragraph 79 has been amended as follows:

In one embodiment (FIGS. **[[13a]] 13A-13C [[13c]]**), the apparatus 110 further comprises at least one additional conveyor chain 12b.

Paragraph 80 has been amended as follows:

In one embodiment (FIGS. **[[13a]] 13A-13C [[13c]]** , 14, 15), the apparatus 110 further comprises a center air duct 54 between the conveyor chains 12a, 12b transmitting heated air from the heated air plenum 20 transversely across the conveyor chains **12a, 12b**. ~~The center air duct 54 may optionally have a supplemental heat source 56, which may be an electrical heater.~~

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Paragraph 81 has been amended as follows:

~~In one embodiment (FIG. 5), the spacing 60 between the shroud 32 and the conveyor chain 112 is variable, thereby accomodating articles of various sizes. In such case, the apparatus 110 further comprises a motor 62a for lowering and raising the shroud 32 relative to the conveyor chain 112.~~

Paragraph 82 has been amended as follows:

In one aspect, the invention is **an apparatus** ~~a heat tunnel~~ 210 (FIG. 4) for applying heated air to articles **A** enclosed in shrink-wrap film **F. The apparatus 210 includes** ~~, the heat tunnel comprising~~ at least one air supply unit 220, a conveyor ~~chain~~ 112, and a heat shroud 32 spaced from the conveyor ~~chain~~ 112, wherein multiple air supply units 220 can be provided along the conveyor ~~chain~~ 112 to create a heat tunnel of desired length. The air supply unit 220 further comprises a source of heated air 18, a fan 26, a heated air plenum 20, air ducts 50, and a return air plenum 30.

Paragraph 83 has been amended as follows:

~~In one embodiment, the heated air plenum 20 is tapered vertically along the conveyor chain 112 in the direction of the conveyor chain, as best seen in FIGS. 6 and 12.~~

Paragraph 84 has been amended as follows:

In one embodiment (FIGS. **[[13a]]** **13A**-**13C** **[[13c]]**), the apparatus 210 further comprises at least one additional conveyor chain 12b.

Paragraph 85 has been amended as follows:

In one embodiment (FIGS. **[[13a]]** **13A**-**13C** **[[13c]]** , 14, 15), the apparatus 210 further comprises a center air duct 54 between the conveyor chains 12a, 12b transmitting heated air from the heated air plenum 20 transversely across the conveyor chains **12a, 12b**. ~~The center air duct 54 may optionally have a supplemental heat source 56, which may be an electrical heater.~~

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Paragraph 86 has been amended as follows:

In one embodiment (FIG. 5), the **displacement** ~~spacing~~ 60 between the shroud 32 and the conveyor ~~chain~~ 112 is variable, thereby **accommodating** ~~accomodating~~ articles of various sizes. In such case, the apparatus **110,** 210 further comprises **means 62** ~~a motor 62a~~ for lowering and raising the shroud 32 relative to the conveyor ~~chain~~ 112. The means 62 may either be manual (e.g., a crank or screw) or it may be automatic (e.g., by a motor 62a).

Paragraphs 87 and 88 have been amended as follows:

~~The apparatus 210 (FIGS. 4, 5, 6, and 10) comprises a moving conveyor chain 112 having a plurality of first apertures 14 therethrough separated by link bars 15. The plenum 20 has a top surface 22 having a plurality of second apertures 24 therethrough. Applicant has found that an optimal size for the second apertures 24 is about 7/16" to 7/32". In this range, the flow of heated air through the apertures 24 is much less turbulent than with either larger or smaller aperture sizes. Specifically, this range of aperture size creates primarily a vertical air flow, while larger aperture sizes allow horizontal flow.~~

~~In one embodiment (FIG. 10), the first apertures 14 and second apertures 24 are in substantial alignment as the conveyor chain 112 moves along the first direction. This structure is significantly different from the prior art (FIG. 9) in which the first apertures 14 and second apertures 24 are substantially unaligned. By having the first apertures 14 and second apertures 24 in substantial alignment, the heated air passing therethrough only heats the conveyor when the two sets of apertures are unaligned. This creates a lower temperature on the conveyor, which has important consequences as will be discussed below.~~

Paragraph 89 has been amended as follows:

In one embodiment, the source of heated air 18 is removable from the air supply unit **220**.

Paragraph 90 has been amended as follows:

In one embodiment, the source of heated air 18 is controlled to maintain a constant temperature in the heated air plenum **20**.

Paragraph 91 has been amended as follows:

In one embodiment, the apparatus 210 further comprises a sensor 230 (FIG. 6) in the heated air plenum 20 after the fan 26, **with** the sensor 230 controlling the temperature of the source of heated air 18.

Paragraph 94 has been amended as follows:

~~In one embodiment, the apparatus 210 further comprises a side air duct 50 adjacent transmitting heated air from the heated air plenum 20 transversely across the conveyor chain 112. The side air duct 50 may optionally have a supplemental heat source 52 (FIG. 11b), which may be an electrical heater.~~

Paragraph 96 has been amended as follows:

In one embodiment, the side air duct **50** has a diffuser 51.

Paragraph 97 has been amended as follows:

In one aspect, the ~~invention is a modular~~ air supply unit 220 **is modular** ~~for a heat tunnel for applying heated air to articles enclosed in shrink-wrap film, the air supply unit 220 comprising a source of heated air 18, a fan 26, a heated air plenum 20, air ducts 50, and a return air plenum 30, the fan 26 blowing heated air from the source of heated air 18 along the heated air plenum 20~~.

Paragraph 98 has been amended as follows:

In one embodiment, a plurality of the modular air supply units **220** may be serially arranged thereby producing a heat tunnel of variable length, as best seen in FIGS. 4, 5, and 6.

Paragraph 99 has been amended as follows:

In one embodiment, the heated air plenum 20 is tapered in cross section transversely to the direction of heated air movement with the cross sectional area of the plenum **20** progressively decreasing away from the fan 26 as best seen in FIGS. 6 and 12.

Paragraph 100 has been amended as follows:

In one embodiment, the modular air supply unit 220 further comprises a retractable center air duct 54 receiving heated air from the heated air plenum **20**.

Paragraph 101 has been amended as follows:

~~**In one embodiment, a supplemental heat source 56 is provided for the center air duct 54.**~~

Paragraph 103 has been amended as follows:

Articles A to be shrink-wrapped are received on an infeed conveyor (not shown) with the shrink-wrap film positioned about the articles **A** illustratively shown in FIG. 3. Although FIG. 3 shows the articles **A** enclosed in shrink-wrap film 21 which has been pre-perforated, any type of shrink-wrap film **F** may be used to enclose the articles **A**.

Paragraph 104 has been amended as follows:

Articles **A** then move from the infeed conveyor to the conveyor 12, 112 as in FIG. 3 and enter the **apparatus 10, 110 and 210** ~~**heat tunnel, generically**~~ shown in FIG. 3 ~~**as reference numeral 10**~~.

Paragraph 105 has been amended as follows:

In the case of the various aspects of the present invention, articles **A** move along the conveyor 12, 112 within the ~~**heat tunnel**~~ **apparatus** 10, 110**, 210**. As they do so, heated air from the source of heated air 18 is driven by the fan 26 along the heated air plenum 20. Heated air then exits the heated air plenum **20** through the second apertures 24. As the conveyor 12, 112 moves along the heated air plenum 20, the first apertures 14, which are in substantial alignment with the second apertures 24, allow heated air to directly contact the shrink-wrap film **F** under the articles **A**, producing an air weld. Because the heated air does not contact the conveyor ~~**chain**~~ **12,** 112 except at the link bars 15 (as shown in FIG. 10), the conveyor ~~**chain**~~ **12,** 112 remains much cooler than in previous devices. This prevents the shrink-wrap film **F** from sticking to the conveyor ~~**chain**~~ **12,** 112. The lower chain temperature also allows the film lap seam under the articles **A** to be welded by the hot air, rather than by the hot chain **which produces** ~~**, producing**~~

an undesirable chain weld. In addition, this prevents the chain itself from robbing heat from the heated air, so that the heated air produces a more efficient air weld on the shrink-wrap film **F**. Another benefit is that the conveyor ~~chain~~ **12, 112** has a longer service life. **[[A]] The** cooling fan **40** for the conveyor ~~chain~~ **12,** 112 may also be provided to increase these benefits.

Paragraph 106 has been amended as follows:

As the heated air moves through the heated air plenum 20 away from the fan 26, an amount of air volume is lost out of each of the second apertures 24 in the top surface 22 of the plenum 20. To maintain constant air pressure, the volume of the plenum 20 needs to be reduced accordingly before the next set of apertures 24. The present invention decreases the cross sectional area of the plenum 20 away from the fan 26, thereby adjusting the volume of the plenum **20** in order to keep relatively constant pressure across the length of the plenum **20**.

Paragraph 108 has been amended as follows:

In the case in which the articles are enclosed within shrink-wrap film **F** such that the open ends of the shrink-wrap film **F** are oriented transversely across the conveyor 12, 112, **the** side air ducts 50 **provide** ~~provided~~ heated air directed at these openings.

Paragraph 109 has been amended as follows:

In the case in which the conveyor **12, 112** is split into two side-by-side chains 12a, 12b, **[[an]] the** optional, retractable center air duct 54 is provided to direct heated air at the open ends of the shrink-wrap film **F** facing the center of the conveyor ~~chain~~ **12,** 112.

Paragraph 110 has been amended as follows:

Both the side air **[[duct]] ducts** 50 and the center air duct 54 may be provided with an adjustable opening to adjust the volume of heated air flowing out. In addition, a nozzle or diffuser may be provided to direct the heated air at the articles **A**.

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Paragraph 111 has been amended as follows:

~~The spacing between the heat shroud 32 and the conveyor 12 may be vertically adjusted to accommodate various size articles and most efficiently shrink them. This can be done with a lift mechanism 62 either manually or automatically by a motor 62A.~~

Paragraph 112 has been amended as follows:

~~Modular~~ Utilizing modular air supply units 220 ~~that include the source of heated air 18, the fan 26, the heated air plenum 20, the air ducts 50, and the return air plenum, can be~~ serially arranged to produce a heat tunnel T of variable length, ~~with the conveyor 12 and the shroud 32 arranged over the air supply units 220. By allowing the length of the heat tunnel to be varied,~~ the film shrinking process can be optimally adjusted for the speed of incoming articles A.

Paragraph 113 has been amended as follows:

Further improvements include the ability to maintain the source of heated air 18 at a constant temperature in the heated air plenum 20. This can be done by providing **the** **[[a]]** sensor 230 (FIG. 6) in the hot air plenum 20, **with** the sensor **230** controlling the temperature of the source of heated air 18. The speed of the fan 26 may be variable to adjust the flow of heated air through the heated air plenum 20.

Paragraph 115 has been amended as follows:

In another embodiment, the second apertures 24 may have small nozzles 24A (FIG. 16). The nozzles 24A increase the length of the aperture 24 and reduce the amount of horizontal air flow that is allowed to exit the aperture 24. The resulting flow from the apertures 24 is thus more vertical, causing less disturbance to the shrink wrap film F.

Paragraph 116 has been amended as follows:

In another embodiment, an optional film separator 250 may be added at the infeed end of the heat tunnel as shown in FIGS. 17-20. The film separator 250 ensures that the film of adjacent packages does not melt and stick together. The film separator 250 extends into the heat tunnel far enough to ensure that the lower portion of the unsupported film, which extends beyond the

articles, has started to shrink and draw away from that of the adjacent package. The separator 250 can be mounted on top of the conveyor ~~chain~~ **12,** 112 (FIGS. 17-18) or it may be mounted between a set of conveyor chains **12a, 12b** ~~112a, 112b~~ (FIGS. 19-20).

Paragraph 117 has been amended as follows:

In another embodiment (FIGS. 21-23), an airflow control mechanism 260 may be added to the heated air plenum 20 to vary the amount of heated air sent through the second apertures 24 across the width of the plenum 20. It has been found that, in the case of perforated film, the amount of airflow required to separate the film at the perforation may be too much for the bottom of the package. This may cause excessive shrink and create holes in the film. The airflow control mechanism 260 preferably comprises air lanes 262 in the heated air plenum 20 under the conveyor 12**, 112**. These air lanes 262 will provide heated air to one or more columns of the second apertures 24 across the width of the plenum 20. Furthermore, the amount of air supplied to each air lane 262 may be independently adjustable through the use of one or more baffles 264. In the usual case, the air lanes 262a under the weakened film and on either side of the outer packages will be open to allow maximum energy through the conveyor 12 in order to separate the packages and shrink the film. However, the lanes 262b directly underneath the packages will be restricted so that the lap seam on the bottom of the package is still welded, but the film is not damaged due to excessive heat. It should be understood that the drawings represent one example of the use of air lanes, and that other baffle configurations are contemplated to be within the scope of the invention.